This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

Claims 1-8 (canceled).

Claim 9 (new): A method for controlling the transmission of data between at least two stations over a transmission medium, each station including data links for applications with assigned priorities and parameters identifying a quality of service, said method comprising the steps of:

establishing a new data link in a first station having an assigned priority;

assigning the data link to a first application;

determining a function of the available free channel capacity of the transmission medium, together with the occupancy of the transmission medium by existing data links;

restricting the new data link according to the determined function and the assigned priority of the first application as compared to existing priorities.

Claim 10 (new): The method in accordance with claim 9, wherein:

a) during the establishment of the new data link, the first station determines whether the measure of the available free channel capacity corresponds to a measure of the necessary channel capacity given by the parameters of the first application, with at least part of any data traffic which is assigned to applications with lower priority than the priority of the first application being considered, in the context of the determination step, to be free channel capacity, and if the result of the determination is positive, the data link is established, and

b) if the result of the determination is negative the establishment of the data link is suspended, at least temporarily.

Claim 11 (new): The method in accordance with claim 10, wherein the channel capacity is regarded as free up to the point where a threshold is reached, with this threshold corresponding to a relative fraction of the data traffic which is assigned to applications with a lower priority.

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Claim 12 (new):   The method in accordance with claim 9, wherein:

a)   during the establishment of a new data link by the first station, the data link in established without regard for the current utilization,

b)   if the transmission medium is occupied by data links assigned to an application with at least a second priority corresponding to that of the first application, at least one of the second stations which are maintaining these links signals in such a way that on the transmission medium a message is communicated with the highest priority to the first station, and

c)   after it has received the message, the first station suspends the new data link, at least temporarily.

Claim 13 (new):   The method in accordance with claim 12, wherein if the result of establishing the link is negative, a delay time is set after the expiry of which steps a) to c) are repeated.

Claim 14 (new):   The method in accordance with claim 13, wherein after each repetition the delay time is increased by a discrete value.

Claim 15 (new):   The method in accordance with claim 14, wherein the repetitions continue until either the establishment of a data link is permitted or the attempt to establish it is finally halted by a termination condition.

Claim 16 (new):   The method in accordance with claim 14, wherein the duration of the suspension before steps a) to c) are repeated can be prescribed as part of the message by the second station as a function of an assessment of a second data link.

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